

Cleaning & Lubing your Model Railroad

Labelle Lubricants – If it moves, Lube it!



Why Lube?

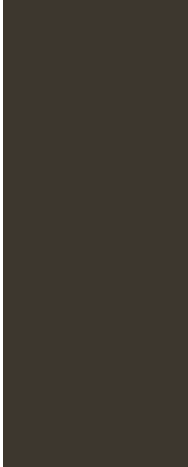
- Improve performance
- Slow wear – extend life of the component

Why Do You Lube?

- Reduce wear
- Reduce energy requirements

If it moves, Lube it!

Which Lube(s) do you use?

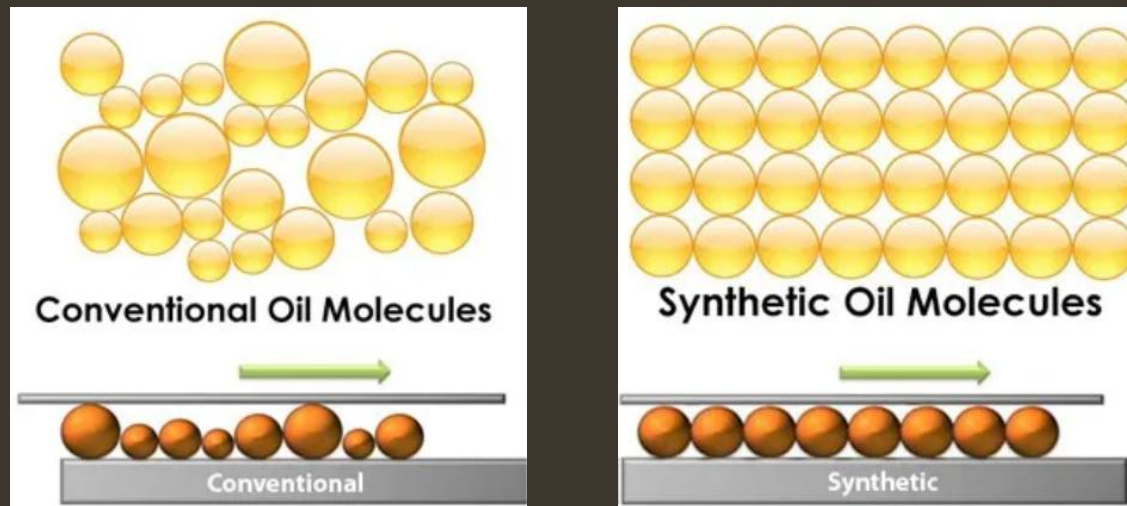


What Qualifies as a good Lube?

- Plastic friendly
- Synthetic Oil
- Right Viscosity
- Right for the Job

Why Synthetic Oil?

- Conventional Oil vs Synthetic Oil
 - Conventional Oil – multi-molecule size
 - Synthetic Oil – uniform molecule size; better lubricant



- Synthetic Oil offers better protection and higher operation temperatures
 - * DriveSafe Online - <https://www.drivesafeonline.org/vehicle-maintenance/synthetic-vs-conventional-oil/>

Locomotive Oils/Greases

- Plastic friendly
- Synthetic Oil
- Lubricants that should be in everyone's Toolbox



Loco Lubing Tool Suggestions



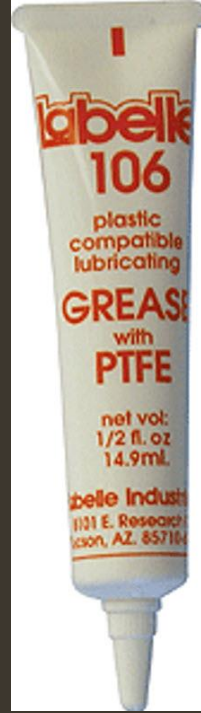
Lubricating Fundamentals

Clean before you lubricate

Use the least amount of lubricate
you can and still get the job done

The greater the viscosity, the greater the
resistance to flow

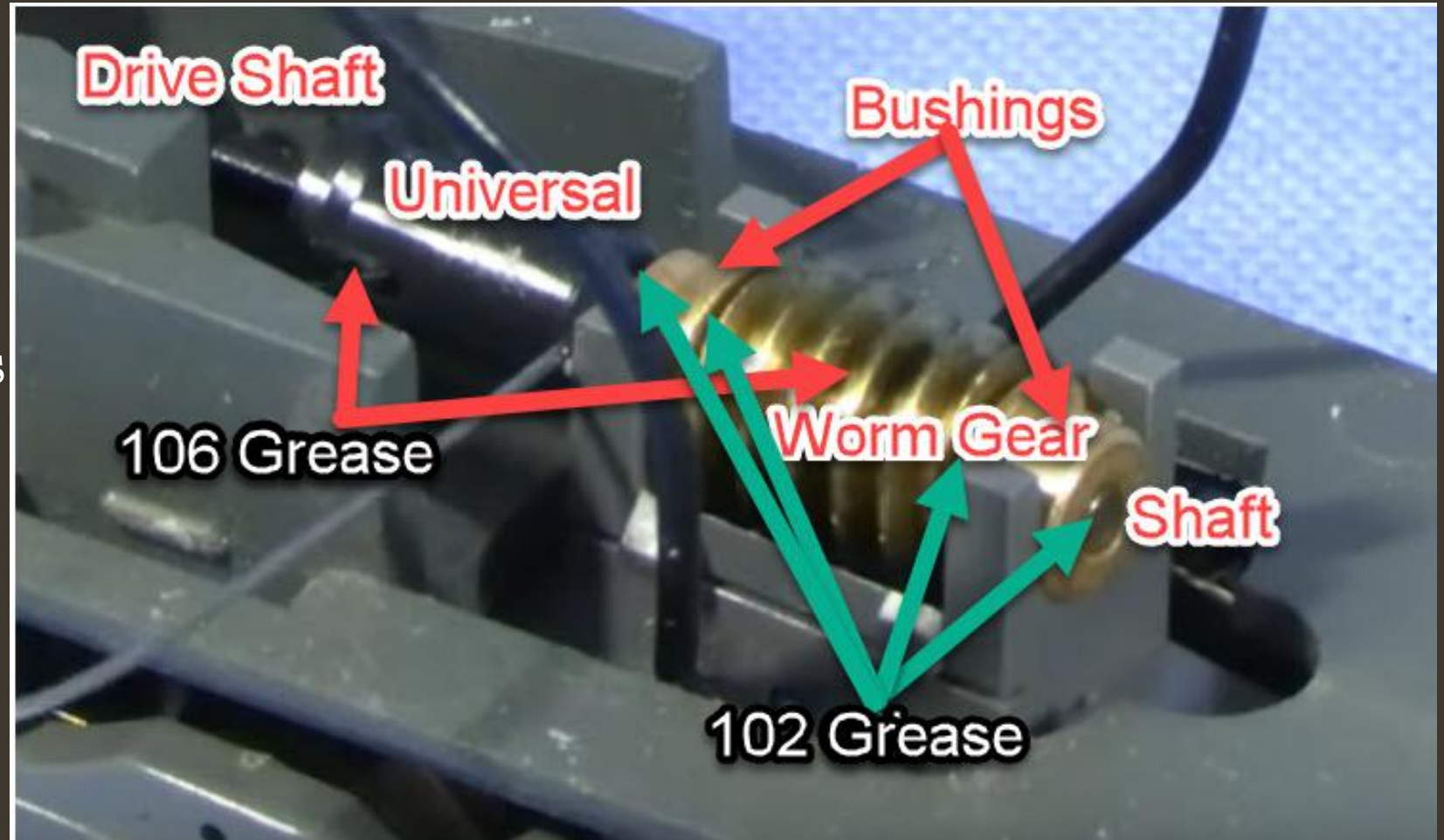
Gear Lube & Grease - Specs



- Grease Grade NLGI “0”
- 102 Viscosity - 150
- Temperature Range -45F° – +450F°
- Food Grade (H1) Approved & Kosher Certified**
- Waterproof, Dielectric
- Superior at low temperatures
- Does not form gummy Deposits
- Environmentally friendly and Biodegradable

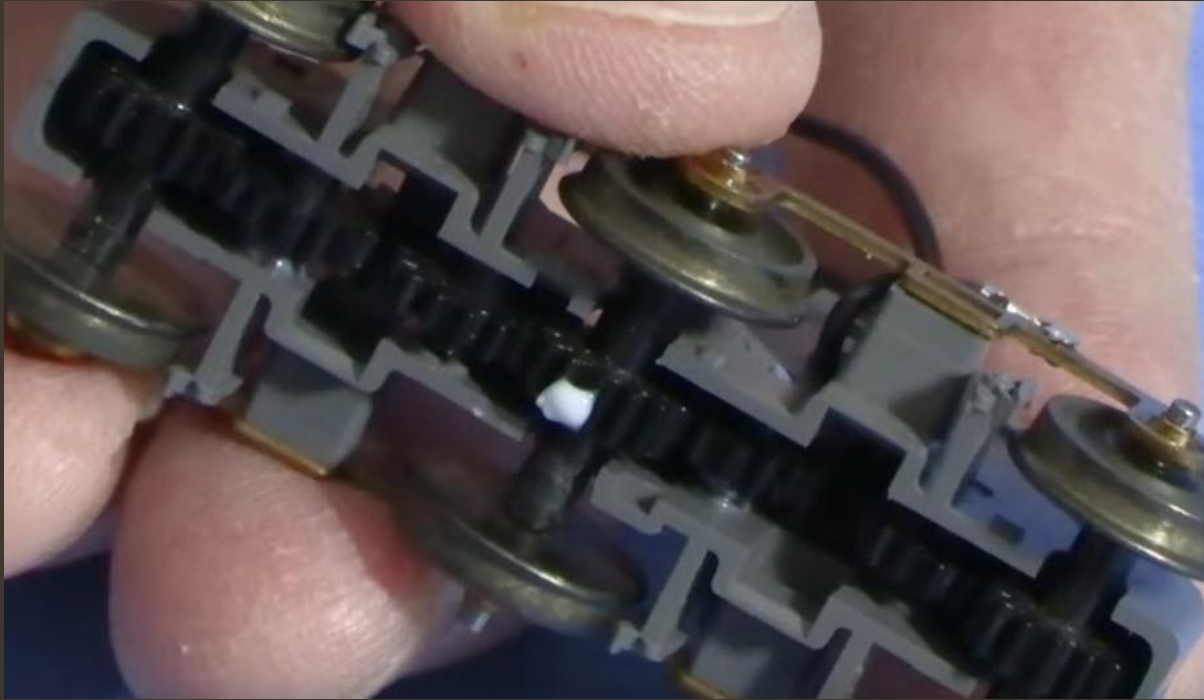
Gear Lube & Grease - con't

- Plastic friendly
- Synthetic Oil
- Labelle #102
 - All Scales
 - Bushings/Bearings
- Labelle #106
 - All Scales
 - Gears

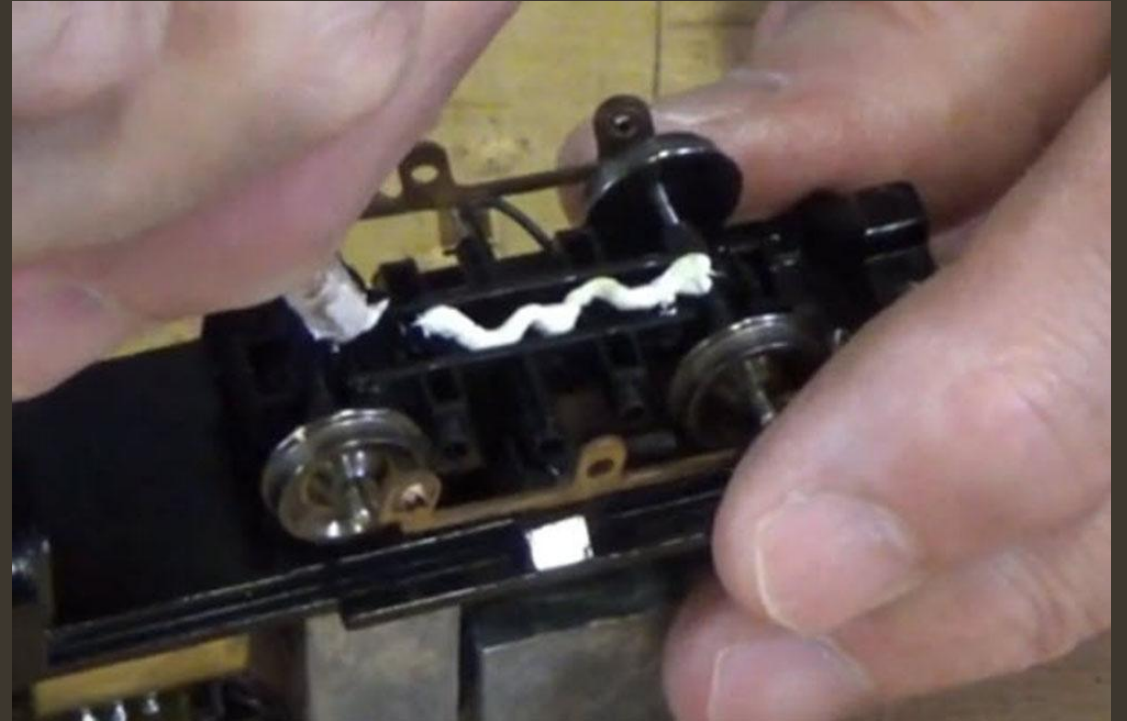


Gear Lube & Grease - con't

- Do this



Not this



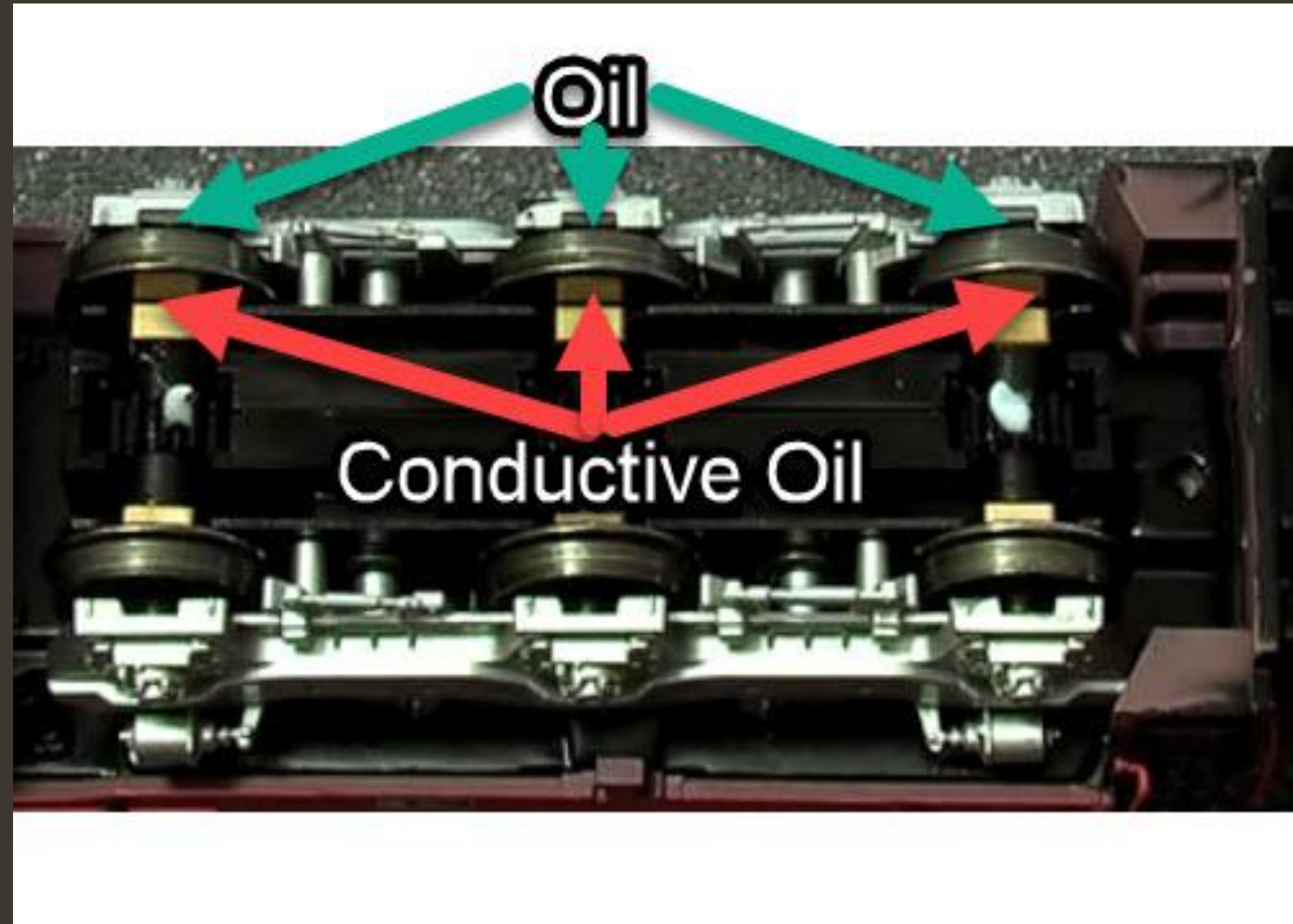
Oil - Specs



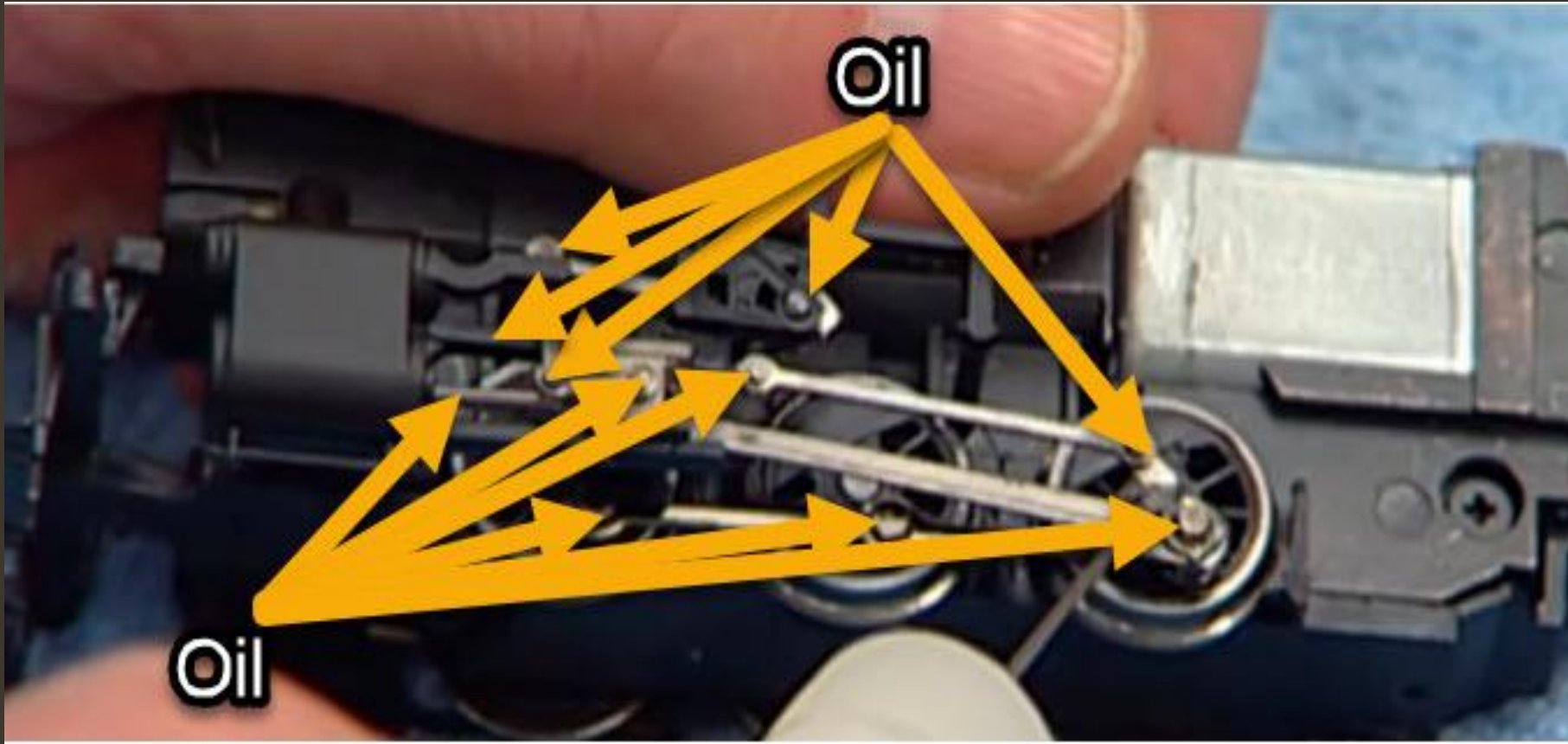
- ISO Grade 68 (SAE 20)
- 107 Viscosity – 68
- 108 Viscosity – 32
- Temperature Range -40F° – +500F°
- Food Grade (H1) Approved & Kosher Certified
- Waterproof
- Dielectric – will conduct electricity
- Superior at low temperatures
- Environmentally friendly and Biodegradable

Oil - Bearings and Bushings

- Plastic friendly
- Synthetic Oil
- Conductive Oil
 - Labelle #107
 - HO, S, O or larger
 - Labelle #108
 - HO, N, Z



Oil - Bearings and Bushings - con't



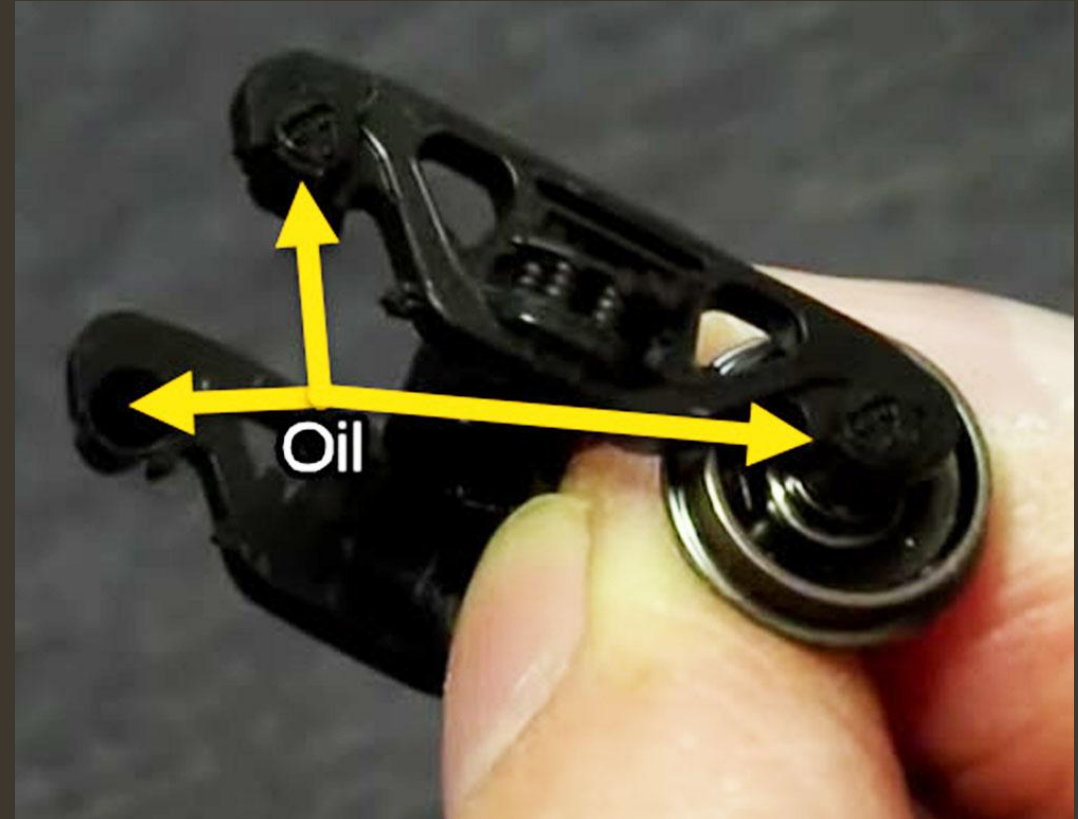
- Plastic friendly
- Synthetic Oil
- Conductive Oil
- Labelle #107
 - HO, S, O or larger
- Labelle #108
 - HO, N, Z

Handy Truck Tools



Freight/Passenger Truck Lube

- Plastic friendly
- Synthetic Oil
- Used 134 in place of graphite
- Better choice 107



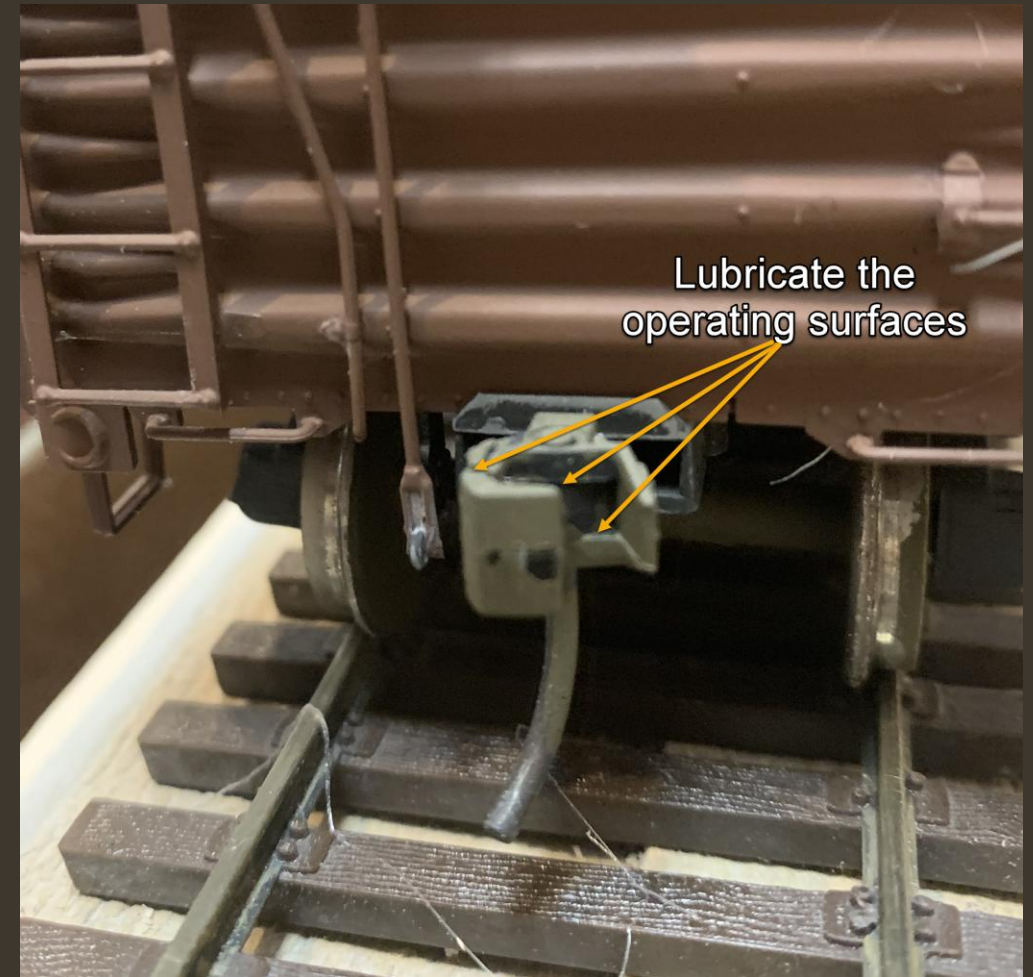
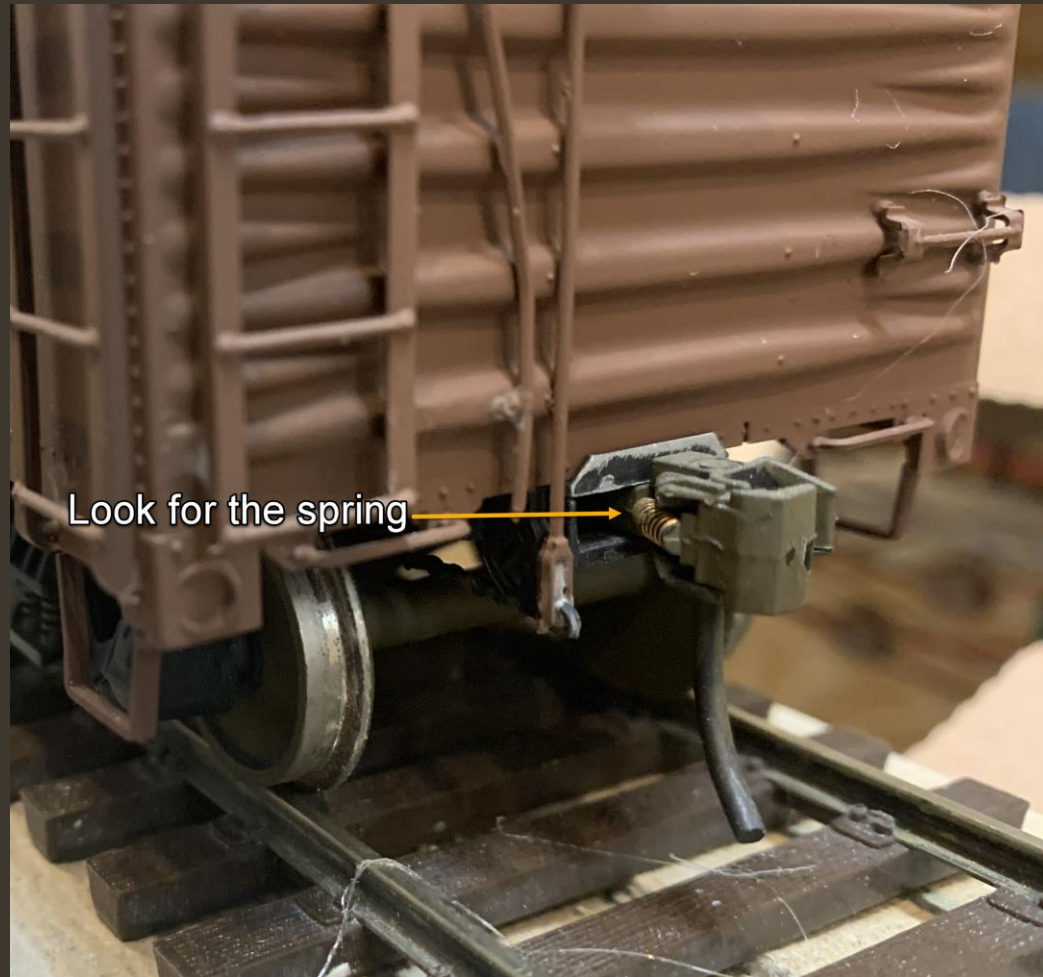
Coupler Lube



- Plastic friendly
- Synthetic Oil
- Labelle #112
 - HO, N, & Z
 - Viscosity 40
- Labelle #113
 - S, O, & Larger
 - Viscosity 60

Oops: Knuckle

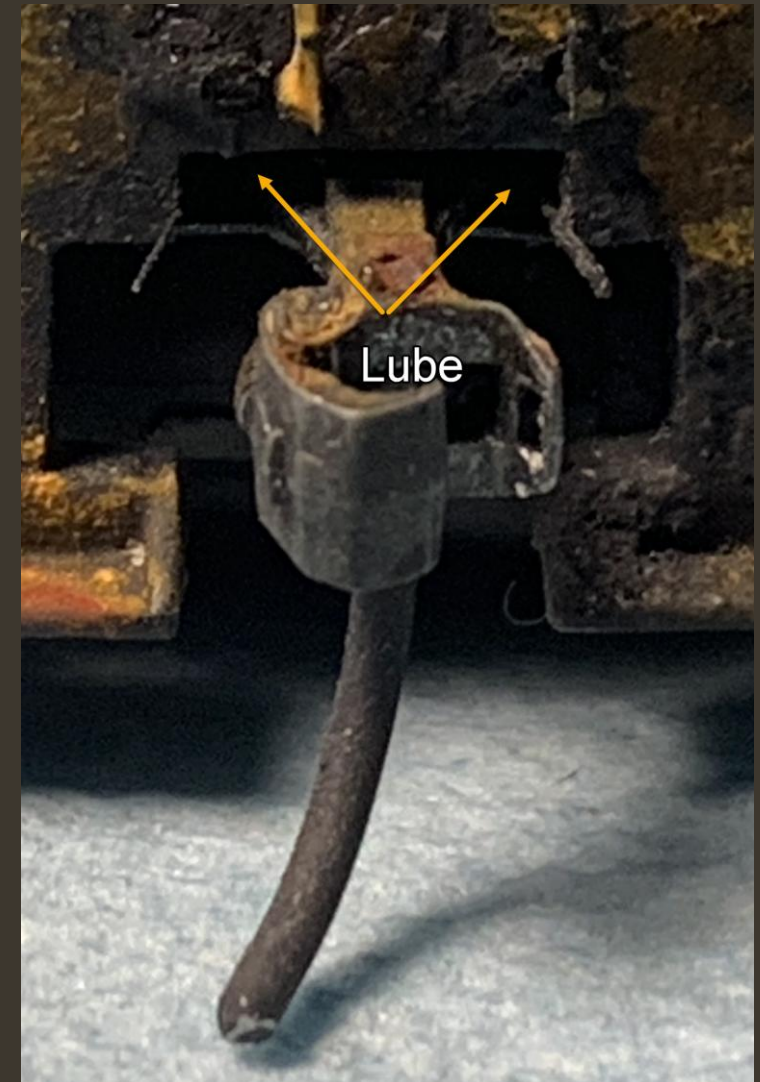
Coupler Lube - con't



Coupler Box Lube



- Plastic friendly
- Powered PTFE
- Labelle #134
- Use in place of graphite
- Lube where the coupler shaft slides
- Lube the coupler pivot shaft



Motor Lube Goal



- Prevent oxidation
- Improve electrical contact

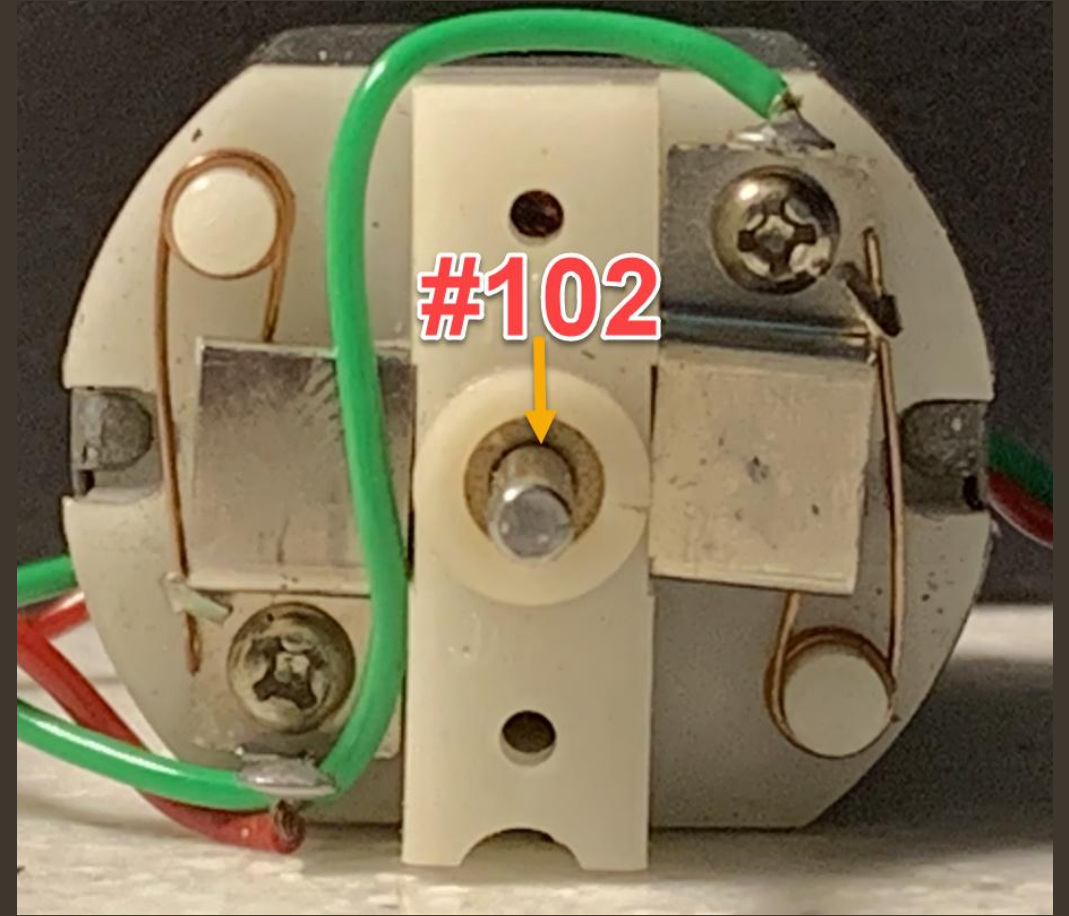


Motor Lubing

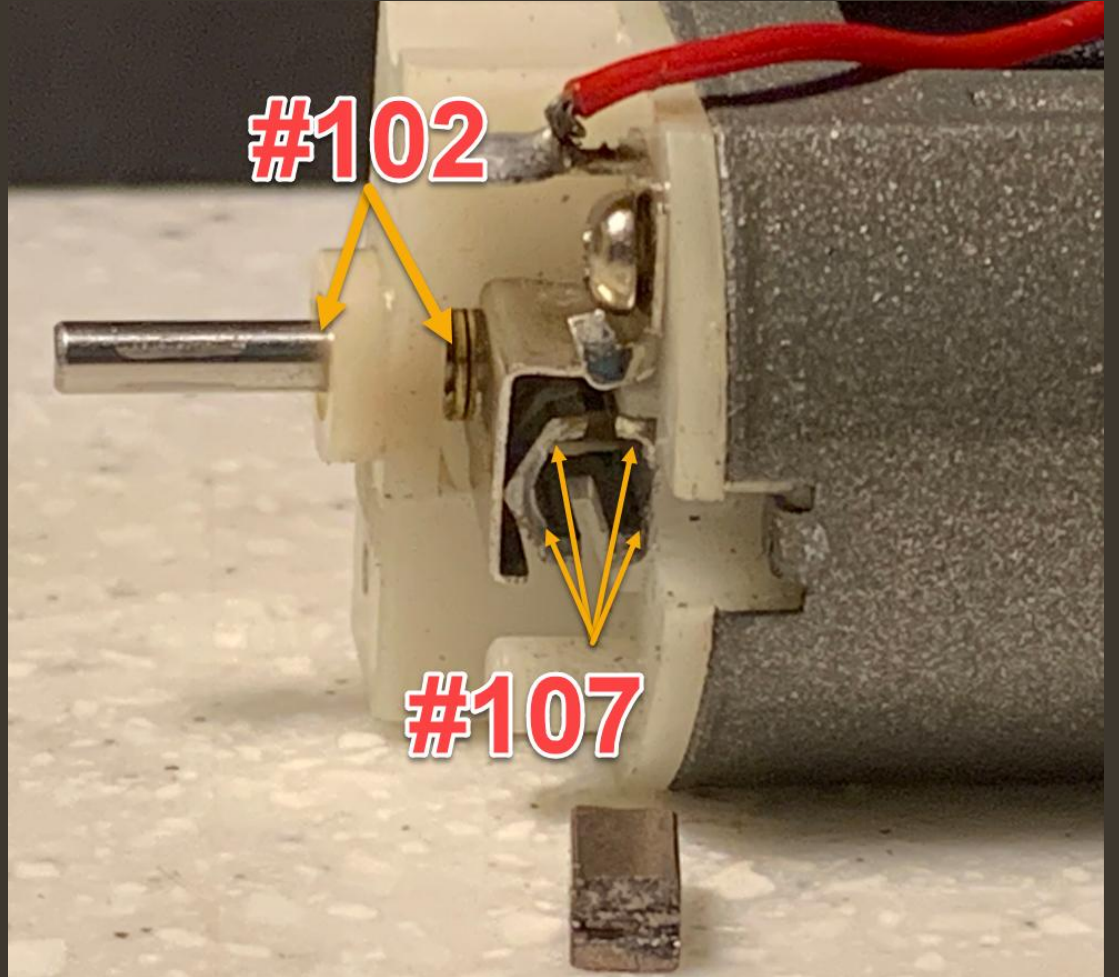
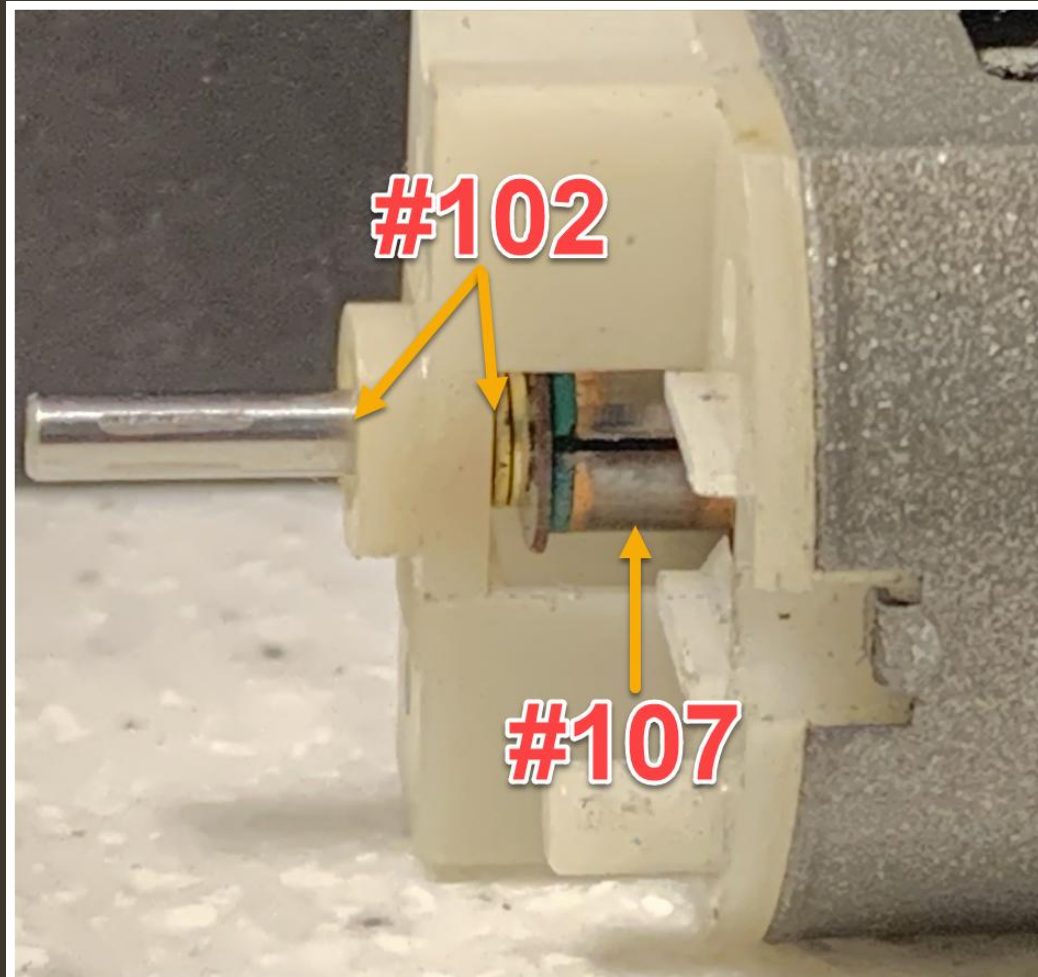


- Plastic friendly
- Synthetic Oil
- Dielectric
- Labelle #102
 - Shaft bearings/bushings
- Viscosity 150
- Labelle #107
 - Commutator/brushes
 - Viscosity 68

Motor Lubing - con't



Motor Lubing - con't



Switch Point Lube Goal



- Prevent oxidation
- Improve electrical contact

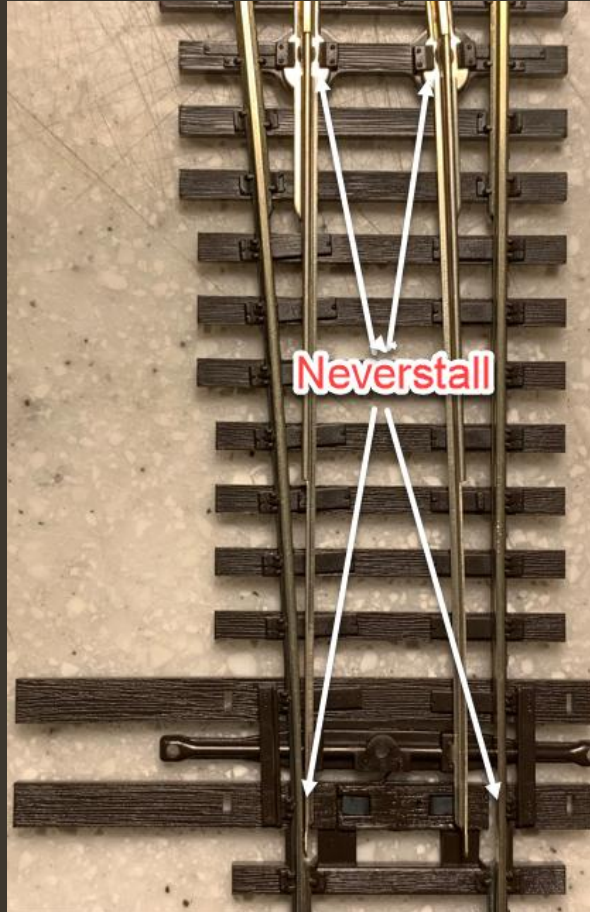


Switch Point Lube

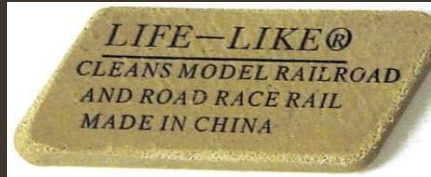


- Plastic friendly
- Synthetic Oil
- Dielectric
- Labelle #112
 - Indoors
 - Viscosity 40
- Labelle #113
 - Outdoors
 - Viscosity 60

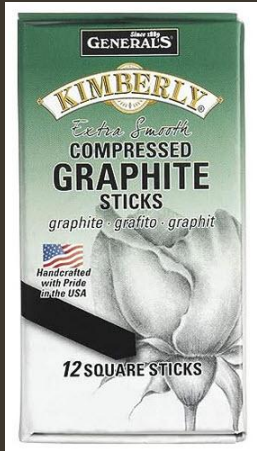
Switch Point Lube - con't



Track Cleaners

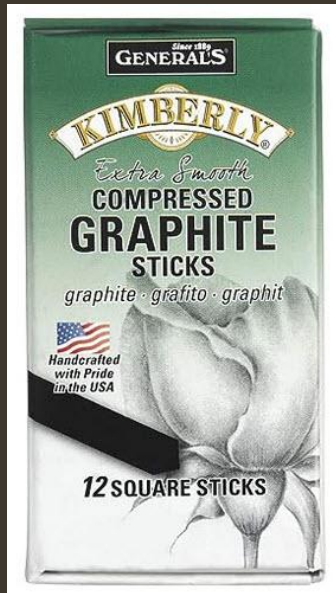


- Mineral Spirits
- Acetone
- Graphite Sticks
- Cleaning Systems
- Erasers



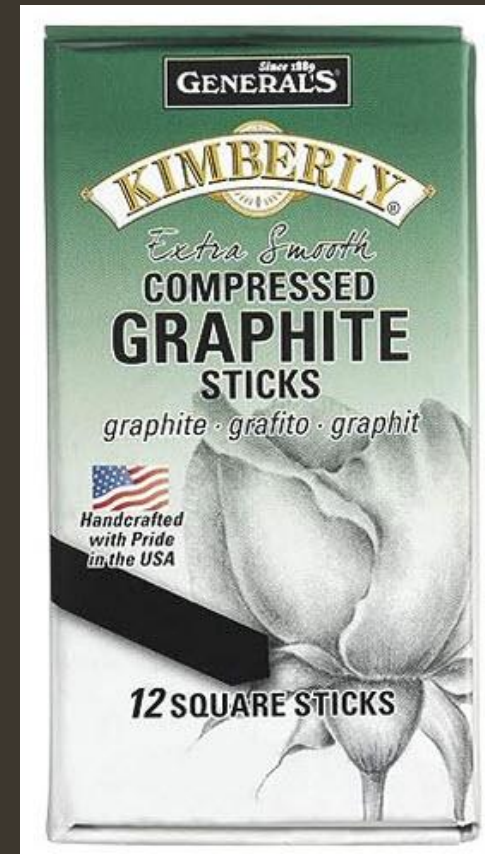
Track Cleaning Goal

- Prevent oxidation
- Improve Electrical Contact



Track Cleaning – My Choice

- Plastic friendly
- Dielectric



Track Cleaning – con't

- Thoroughly clean the with Mineral Spirits
- Lightly rub on inside of each rail with Graphite
- Experience indicates annual cleaning of track
- I use a consist of cleaning cars to clean the track



Track Cleaning – Dielectric Constant

- Dielectric – Ability to hold a charge
- The lower the constant, the better
- The higher the dielectric constant, the higher the electrostatic forces

Dielectric Constant Non-Polar	
Kerosene	1.8
Deluxe Materials Track Magic	1.9
WD-40 Contact Cleaner	1.9
CRC Contact Cleaner & Protectant	2.0
DeoxIT DS	2.0
Gasoline	2.0
Neverstall	2.0
Diesel Fuel	2.1
Mineral Spirits	2.1
Wahl Clipper Oil	2.1
Turpentine	2.2
Carbon Tetrachloride	2.2
No-Ox-IDA Contact Cleaner	2.3
Goo-Gone	2.3
WD-40 (regular)	2.4
Graphite (microscopic thin layer)	1.8-3.0

Dielectric Constant Semi-Polar	
CRC 2-26	4.6
Automatic Transmission Fluid	4.8
Rail-zip	4.8
Bachmann Track Cleaner	4.8
Butyl Acetate	5.1
Butyl Cellosolve	5.3
Ethyl Acetate	6.0

Dielectric Constant Polar	
Graphite (thick layer)	10.-15.0
Isopropyl Alcohol (IPA)	18.0
Methyl Ethyl Ketone (MEK)	18.9
CRC QD Contact Cleaner	20.0
Lucas Contact Cleaner	20.0
Acetone	20.7
Vinegar	24.0
Ethyl Alcohol	25.0
Radio Shack Electronics Cleaner	25.0
Ammonia solution	31.6
Propylene Glycol	32.0
Lacquer Thinner	33.6
Glycerin	47.0
Hydrogen Peroxide	60.0
Water	80.4

<https://www.clippercontrols.com/technotes/dielectric-constant-values>

Q & A